
Assembly and installation

RPE equipment may be shipped fully assembled in PE cabinets or shelves, or the circuit cards may be shipped individually packaged for installation in existing PE cabinets.

When new cabinets are to be installed, refer to the appropriate system installation instructions for grounding and power requirements, wiring diagrams, and cabinet installation and inspection procedures.

Procedures 1 and **2** give the installation and cabling procedures for RPE shelves at the local and remote equipment locations, respectively.

Procedure 3 describes the remote alarm installation. **Figures 4** and **5** illustrate RPE shelf cabling.

Telephones, consoles, and add-on-modules are installed and connected as described in *Telephone and attendant console installation* (553-3001-215) and system installation procedures.

Procedure 1
Local RPE installation

Step	Procedure
1	Install the QSD6 or QSD11 (left-hand or right-hand mounted) carrier shelf with no circuit cards inserted.
2	Install an NE-A18Q cable from carrier shelf connector jacks E and F to each network card (see Figure 5).
3	Install two NE-A25B cables from shelf connector jacks C and D to the cross connect terminal (see Figure 4).
4	Insert a QPC85, QPC190, or QPC355 5/12-V Converter Card (depending on the shelf vintage) in slot 10. The QPC190 and QPC99 (Carrier Interface) will be damaged if the wrong card is used with the wrong shelf: see page 14 for instructions and cautions.
5	Follow cabinet inspection procedures if a new cabinet is installed.
6	If there is no existing RPE equipment, install a QBL14 Power Distribution Box (see Figure 6). See Note for trip circuitry information.
7	Install the power cable (supplied with the carrier shelf), connecting it from the QBL14 unit to the carrier shelf power jack (see Figure 6).
8	Terminate the cables.
9	Connect power to the RPE carrier shelf.
10	Check the option switch settings and header pin strapping on the QPC62, QPC66, and QPC99 cards (see Figures 7, 8, and 9). For more information, see <i>Circuit card installation and testing</i> (553-3001-211).
11	Insert all other circuit cards in their designated positions (refer to Figure 3).

Note: The QBL14 Power Distribution Box located in the RPE contains undervoltage detection circuitry that trips the input circuit breaker when the DC input voltage drops below -42 V. This circuit prevents the RPE from dropping the battery voltage below -42 V, which would cause permanent battery damage.

Where battery backup is not provided, a short interruption of the main AC input power will cause the input breaker to trip. This interruption keeps the power to the RPE off when the AC power source is restored.

In this situation (no battery backup), you can disable the trip circuitry by removing the single wire from the D terminal on the input breaker of the QBL14 (see [Figure 10](#)). Wrap the disconnected end with insulating tape and dress the wire back.

Procedure 2

Remote RPE installation

Step	Procedure
1	Install the QSD6 or QSD11 (left-hand or right-hand mounted) carrier shelf.
2	Install the PE shelves (left-hand or right-hand mounted).
3	Install two NE-A25B cables from carrier shelf connector jacks C and D to the cross connect terminal (see Figure 4). Terminate the cables.
4	Install NE-A18QA cables from carrier shelf jacks E and F to the PE shelves for network loops X and Y (see Figure 4).
5	Install NE-A18QA cables between the PE shelves (see Figure 4).
6	Install four NE-A25B type cables from jacks A, B, C, and D of each PE shelf to the cross connect terminal. See <i>Telephone and attendant console installation</i> (553-3001-215) for designations and terminating procedures.
7	Follow cabinet inspection procedures if a new cabinet is installed.
8	If there is no existing RPE equipment, install a QBL14 Power Distribution Box (see Figure 6).
9	Install the power cable (supplied with the carrier shelf), connecting it from the QBL14 unit to the carrier shelf power jack (see Figure 6). See Note for trip circuitry information.
10	Insert a QPC85, QPC190, or QPC355 card (depending on the shelf vintage) in slot 10. Equipment will be damaged if the wrong card is used with the wrong shelf; see page 14 for instructions and cautions.
11	Connect power to the RPE carrier shelf.
12	Check the option switch settings and header pin strapping on the QPC62, QPC66, and QPC99 cards (see Figures 7, 8, and 9). For more information, see <i>Circuit card installation and testing</i> (553-3001-211).
13	Insert all other circuit cards in their designated positions (refer to Figure 3).

Note: The QBL14 Power Distribution Box located in the RPE contains undervoltage detection circuitry that trips the input circuit breaker when the DC input voltage drops below -42 V. This circuit prevents the RPE from dropping the battery voltage below -42 V, which would cause permanent battery damage.

Where battery backup is not provided, a short interruption of the main AC input power will cause the input breaker to trip. This interruption keeps the power to the RPE off when the AC power source is restored.

In this situation (no battery backup), you can disable the trip circuitry by removing the single wire from the D terminal on the input breaker of the QBL14 (see [Figure 10](#)). Wrap the disconnected end with insulating tape and dress the wire back.

The foregoing also applies to the QBL14 used with the local carrier shelves if reserve battery is not installed at the main location.

Figure 4
Remote end PE shelf and carrier shelf cabling

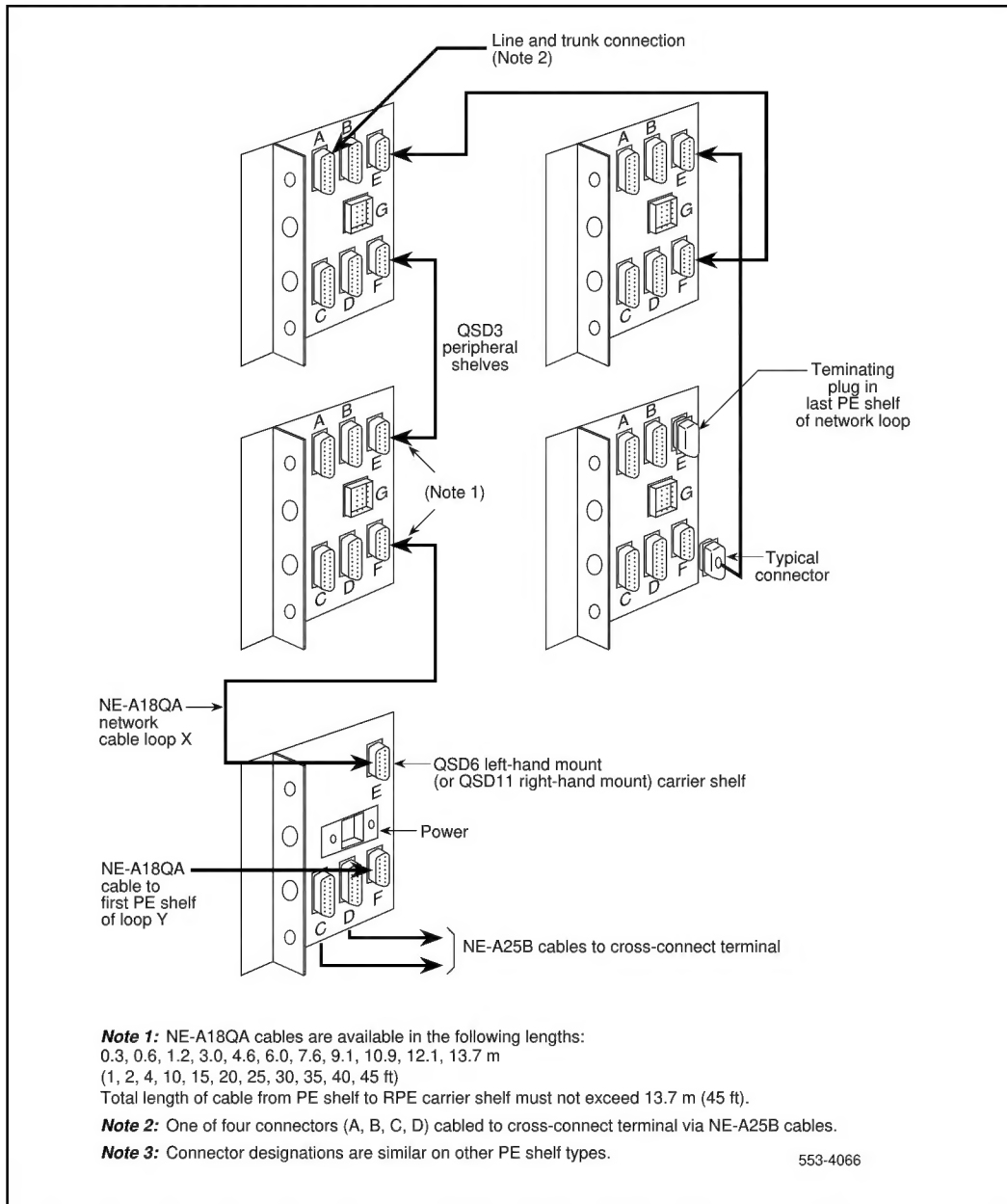


Figure 5
Local end network loop and carrier shelf cabling

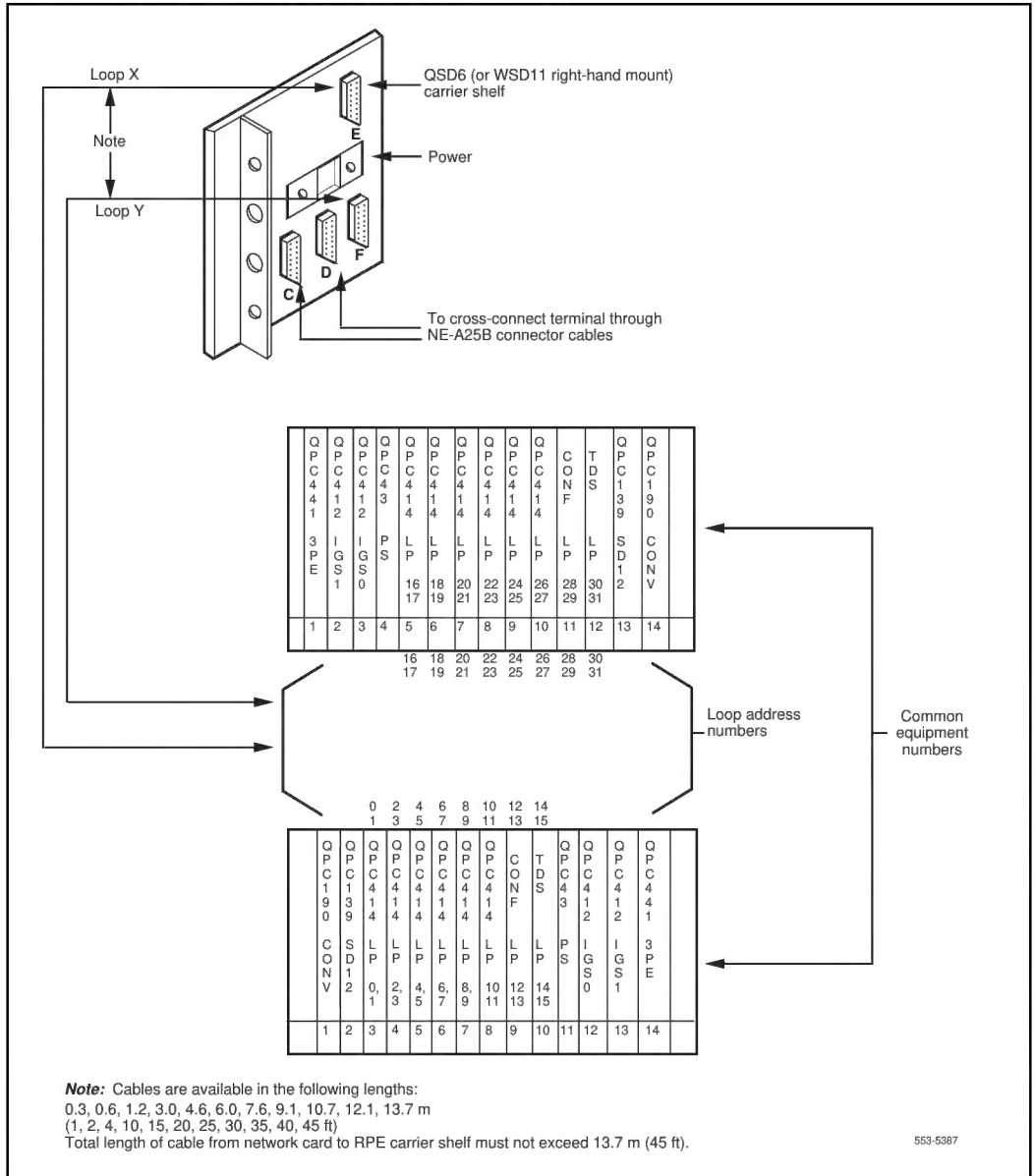


Figure 6
QBL14 Power Distribution Box wiring and connections

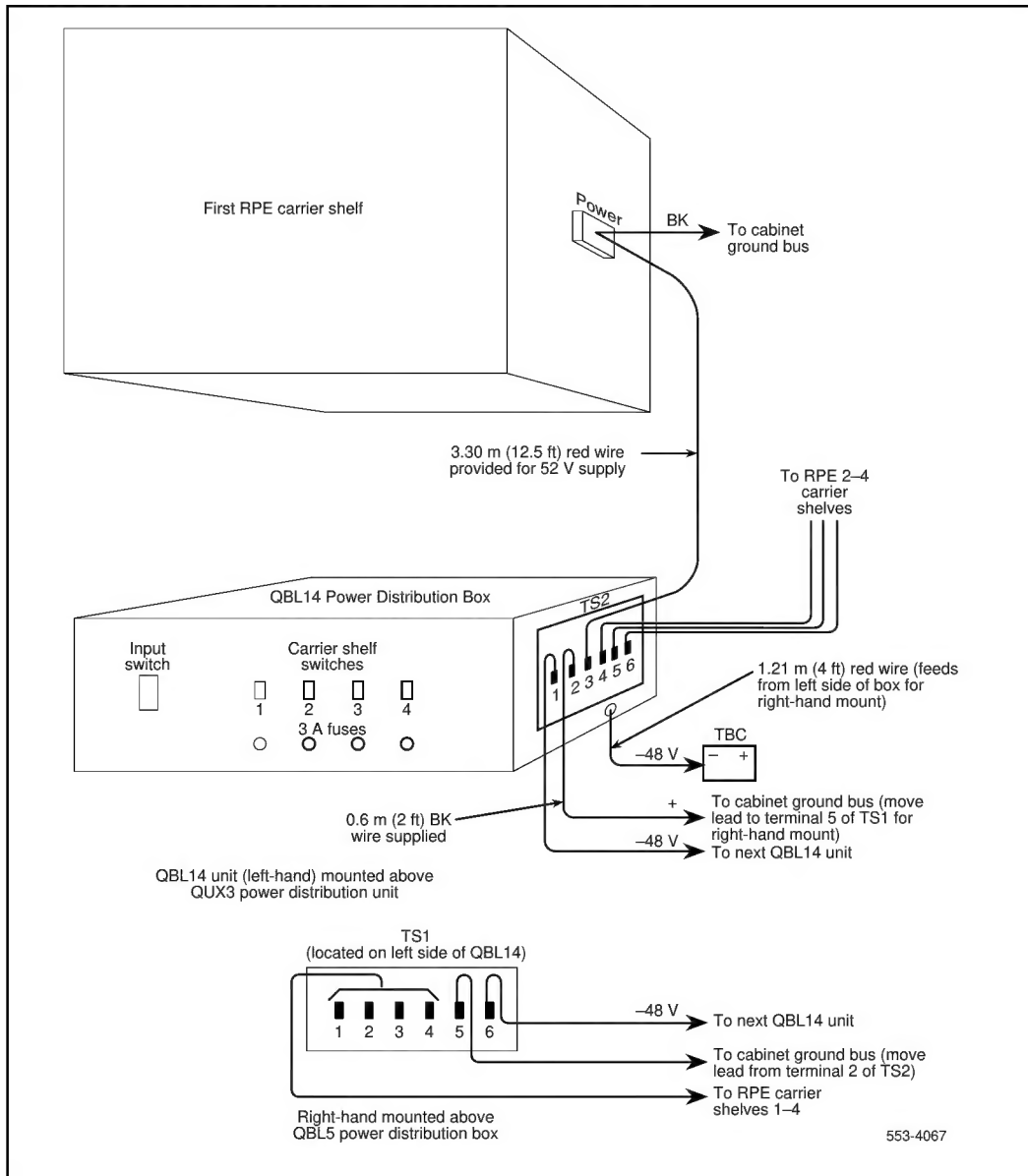
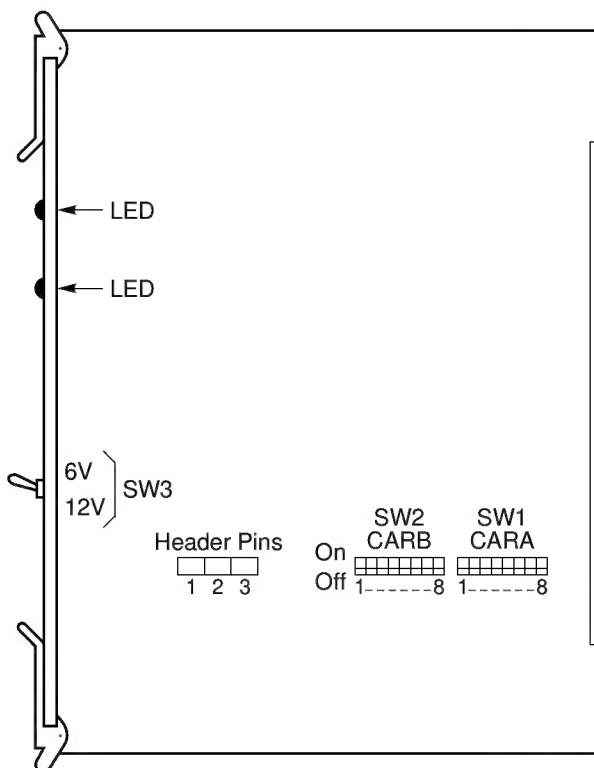


Figure 7
QPC62 1.5 Mbaud Converter Card option switches and header pins



Note 1: If cards are QPC62E or later vintage, insert the plug-in jumper (U-link) between header pins 1 and 2.

Note 2: If cards are QPC62D or earlier vintage, insert the U-link between header pins 2 and 3.

Note 3: QPC62E or later vintage cards must be provided for M, MS, N, N (QCA96), XN, XN (QAC97), and S systems.

Note 4: If QPC50K or later vintage is inserted in any system for RPE loop, QCD62E, or later vintage, must be used.

Note 5: Refer to *Circuit card installation and testing* (553-3001-211) for switch options.

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Figure 8
QPC66 2 Mbaud Converter Card header pins

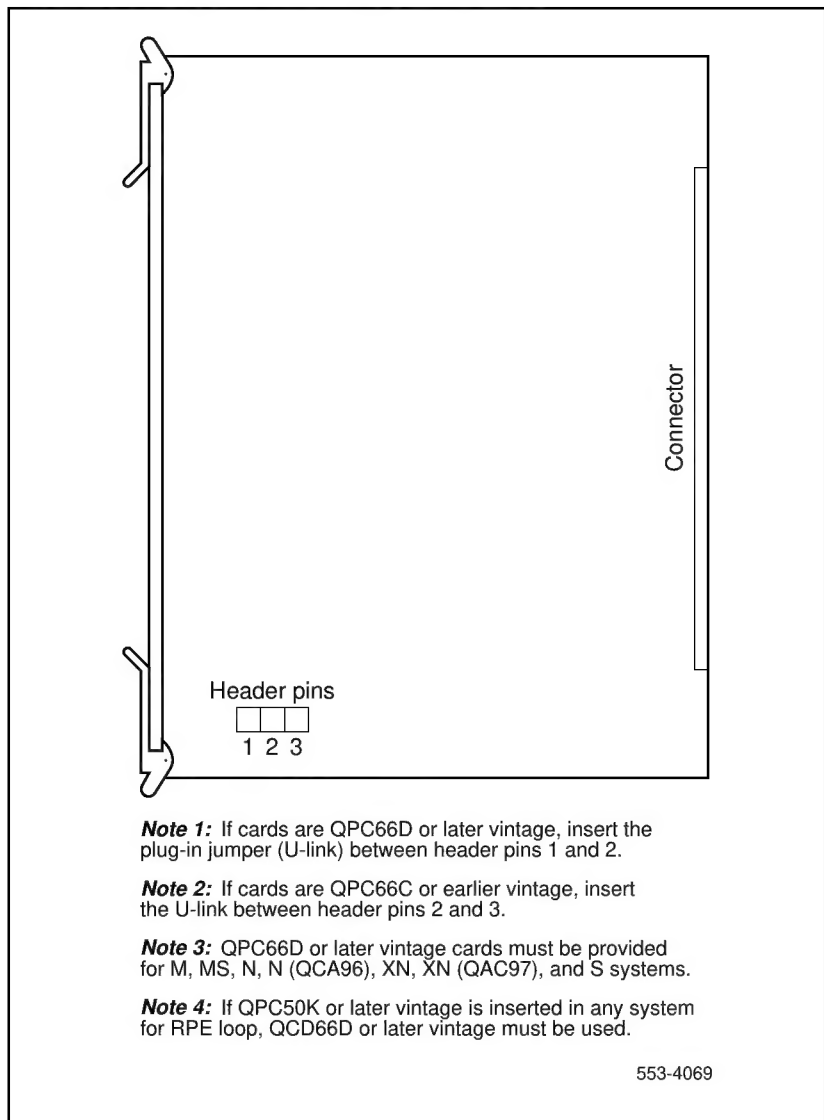


Figure 9
QPC99 Carrier Interface Card option switches

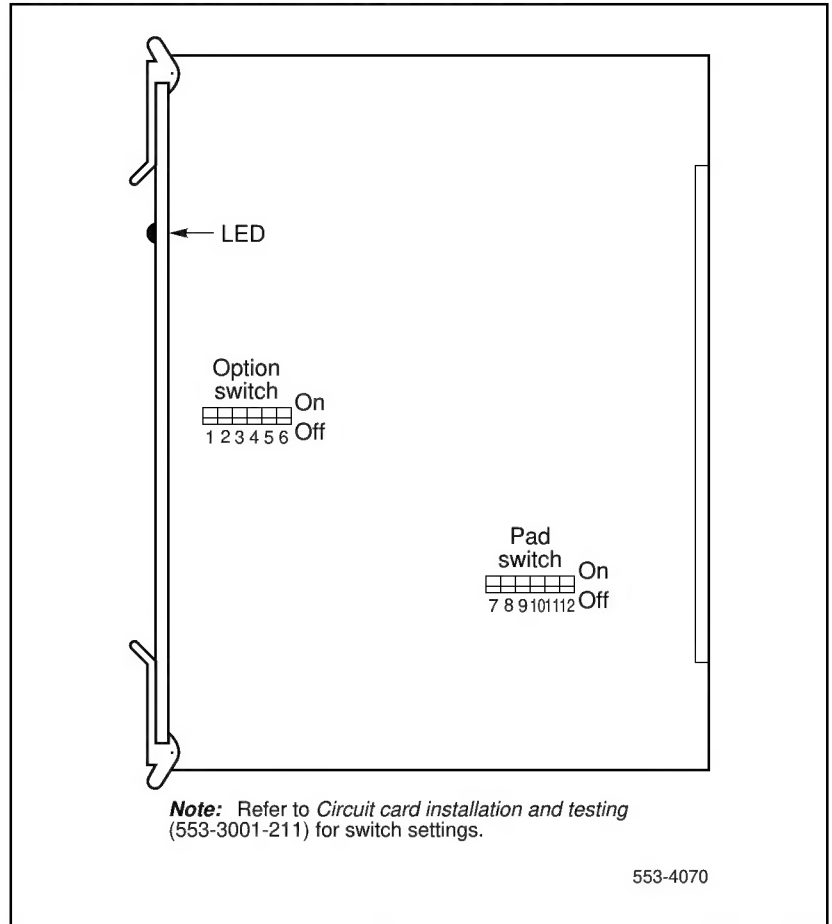
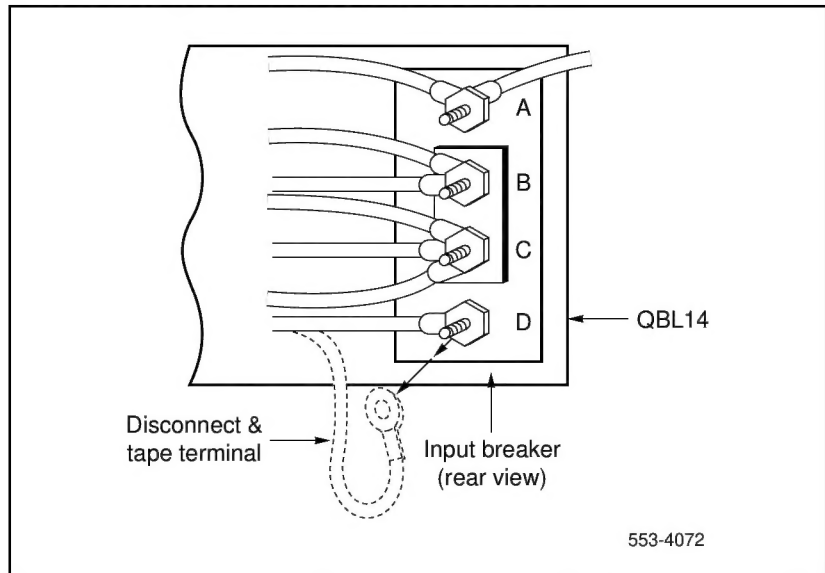


Figure 10
QBL14 Power Distribution Box input breaker



Procedure 3 Remote alarm installation

Step	Procedure
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Note: In an RPE installation, a power failure at the remote end cannot be detected at the local end. To overcome this, a wire pair can be connected from the remote QPC84 Power Monitor to the alarm input of the local QPC84 (see [Figure 11](#)). This can be used to generate a system terminal message, or a visual alarm, or both to indicate a power failure at the remote end.

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|---|---|
| 1 | Use the system installation procedures to install connector cables (NEA25B or equivalent) from the P10 plug of each remote QCA8 to the cross connect field. |
| 2 | Install and designate an NEA25B connector cable (or equivalent) from the cross connect terminal to the main location. |
| 3 | At the main location, connect the two alarm leads (through the cross connect terminal) to a customer provided alarm with provision for audio indication of remote power failure. |
| 4 | Connect two leads from the main alarm to TS3 of the QCA6 (L system), QCA10 (VL system), QCA23 (LE system), QCA24 (VLE and XL systems), QCA28 (A system), or QCA37 (SL-1M system). |
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Figure 11
Remote alarm connection

